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To:	CATNY SHORT
Organization:	U.S. P.T.O. - PCT
Facsimile No.:	703-305-3830
From:	STEPHEN J. SCHULTZ
Date:	3/21/03
Our File No.:	14-694
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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE PATENT

IN RE APPLICATION: Usama Fayyad et al.

Serial No. 09/700,606

Group Art Unit: 2171

Filed: January 31, 2001

Title: SCALABLE SYSTEM FOR CLUSTERING OF LARGE DATABASES HAVING MIXED ATTRIBUTES

Docket No. 14-694 - 4254

Watts, Hoffmann, Fisher & Heinke, Co., LPA  
1100 Superior Avenue, Ste. 1750  
Cleveland, Ohio 44114VIA FACSIMILE (703) 305-3230Attention: Ms. Cathy Short  
Assistant Commissioner for Patents, Box PCT  
Washington, D.C. 20231REQUEST FOR CORRECTED FILING RECEIPT

Dear Ms. Short:

As evidenced by the enclosed copy of page one of the specification, noting the first two paragraphs, and the enclosed copy of the Declaration and Power of Attorney, the correct domestic priority data as claimed by applicant should read as follows:

THIS APPLICATION IS A 371 OF PCT/US99/06717 03/29/1999


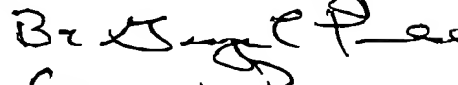
WHICH IS A CIP OF 09/083,906 05/22/1998

WHICH CLAIMS BENEFIT OF 60/086,410 05/22/1998

A copy of the original filing receipt is enclosed which shows the necessary corrections. A corrected filing is **urgently** and respectfully requested since this application has been passed to issue.

Respectfully submitted,

Date: 3/21/03Telephone: 216-241-6700  
Facsimile: 216-241-8151

  
Stephen S. Schultz  
Reg. No. 29,108  
  
George L. Pincham  
Reg. No. 37,697  
With Consent

## A Scalable System for Clustering of Large Databases Having Mixed Data Attributes

### Cross Reference to Related Applications

The present invention is a continuation in part of co-pending United States  
5 patent application serial number 09/083,906 entitled "A Scalable System for  
Expectation Maximization Clustering of Large Databases" to Fayyad et al having a  
filing date of May 22, 1998, and which is assigned to the assignee of the present  
application and is incorporated herein by reference.

Priority is claimed from provisional United States patent application serial  
10 number 60/086,410 filed May 22, 1998.

### Field of the Invention

The present invention concerns database analysis and more particularly  
concerns an apparatus and method for clustering of data into groups that capture  
15 important regularities and characteristics of the data.

### Background Art

Large data sets are now commonly used in most business organizations. In  
fact, so much data has been gathered that asking even a simple question about the data  
20 has become a challenge. The modern information revolution is creating huge data  
stores which, instead of offering increased productivity and new opportunities, can  
overwhelm the users with a flood of information. Tapping into large databases for  
even simple browsing can result in a return of irrelevant and unimportant facts. Even  
people who do not 'own' large databases face the overload problem when accessing  
25 databases on the Internet. A large challenge now facing the database community is  
how to sift through these databases to find useful information.

Existing database management systems (DBMS) perform the steps of reliably  
storing data and retrieving the data using a data access language, typically SQL. One  
major use of database technology is to help individuals and organizations make  
30 decisions and generate reports based on the data contained in the database.

An important class of problems in the areas of *decision support* and *reporting*  
are clustering (segmentation) problems where one is interested in finding groupings  
(clusters) in the data. Data clustering has been used in statistics, pattern recognition,

Attorney's Docket No. 14-694Patent

## DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

As a below-named inventor, I hereby declare that:

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

## A SCALABLE SYSTEM FOR CLUSTERING OF LARGE DATABASES MIXED DATA ATTRIBUTES

the specification of which:

\_\_\_\_\_ is attached hereto.  
\_\_\_\_\_ was filed on \_\_\_\_\_ as United States Patent Application Number \_\_\_\_\_ and was amended on \_\_\_\_\_ (if applicable).  
X was filed on March 29, 1999 as PCT International Application Number PCT/US99/06717.

I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56. Under that section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and (1) it establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or (2) it refutes, or is inconsistent with, a position the applicant takes in: (i) opposing an argument of unpatentability relied on by the United States Patent and Trademark Office, or (ii) asserting an argument of patentability.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT international application(s) which designated at least one country other than the United States, listed below. I have also identified below any corresponding foreign application(s) for patent or inventor's certificate or any corresponding PCT international application(s) having a filing date before that of the application(s) on which priority is claimed.

Prior Foreign Application(s)

Number	Country	Filing Date (mm/dd/yyyy)	Priority Claimed (Yes or No)
PCT/US99/06717	PCT	29 March 1999	Yes

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[Page 1 of 3]

by Mark B. Ginst

I hereby claim the benefit under Title 35, United States Code, § 119(c) of any United States provisional application(s) listed below.

United States Provisional Application(s)

Application Number	Filing Date (mm/dd/yyyy)
60/086,410	May 22, 1998

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) or § 365(c) of any PCT international application(s) designating the United States, listed below. Insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application(s) and the national or PCT international filing date of this application.

United States Application(s) Upon Which Priority is Claimed

Application Number	Filing Date (mm/dd/yyyy)	Status (abandoned, pending, patent number)
09/083,906	May 22, 1998	Pending

I hereby appoint the following attorney(s) and/or agent(s), all of whom are associated with Watts, Hoffmann, Fisher & Heinke Co., L.P.A., having offices at 1100 Superior Avenue East, Suite 1750, Cleveland, Ohio 44114-2518, to prosecute this application and to transact all business in the United States Patent and Trademark Office connected therewith:

Thomas E. Fisher, Reg. No. 18,271  
 Stephen J. Schultz, Reg. No. 29,108  
 Lowell L. Heinke, Reg. No. 19,471  
 John R. Hlavka, Reg. No. 29,076  
 George L. Pinchak, Jr., Reg. No. 37,697

Linn J. Raney, Reg. No. 23,078  
 Paul A. Serbinowski, Reg. No. 34,429  
 Richard A. Sharpe, Reg. No. 34,722  
 James G. Watterson, Reg. No. 20,180  
 Peter R. Hagerty, Reg. No. 42,618  
 Kenneth J. Smith, Reg. No. 45,115

and the following attorney(s), all of whom are associated with Microsoft Corporation having an address of One Microsoft Way, Redmond, Washington 98052-6399;

Daniel D. Crouse, Reg. No. 32,022      Katie E. Sako, Reg. No. 32,628

to prosecute this application and to transact all business in the United States Patent and Trademark Office connected therewith, and I hereby designate the foregoing Stephen J. Schultz, Reg. No. 29,108, principal attorney.

This appointment shall include all power to prosecute and transact all business relating to all applications corresponding to this application in all countries, including all regional and international patent offices, such as, but not limited to, the European Patent Office and all offices and bureaus established in accordance with the Patent Cooperation Treaty.

I hereby further designate and appoint any officer of Watts, Hoffmann, Fisher & Heinke Co., L.P.A. my attorney in fact with full power of substitution and revocation, including power to designate a substitute principal attorney.

Address all correspondence to:

WATTS, HOFFMANN, FISHER & HEINKE CO., L.P.A.  
1100 Superior Ave., Ste. 1750  
Cleveland, Ohio 44114-2518

Direct all telephone calls to Stephen J. Schultz at (216) 241-6700 and direct all facsimile correspondence to (216) 241-8151.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issued thereon.

Full Name of Sole or First Joint Inventor: <b>Usama Fayyad</b>	
Inventor's Signature:	Date:
Residence: <b>Mercer Island, Washington</b>	Citizenship: <b>United States of America</b>
Post Office Address: <b>9705 SE 43<sup>rd</sup> Street, Mercer Island, WA 98040</b>	

Full Name of Second Joint Inventor: <b>Paul S. Bradley</b>	
Inventor's Signature:	Date:
Residence: <b>Seattle, Washington</b>	Citizenship: <b>United States of America</b>
Post Office Address: <b>600 Lake Washington Blvd., East, Apt #C, Seattle, WA 98112</b>	

Full Name of Third Joint Inventor: <b>Cory A. Reina</b>	
Inventor's Signature:	Date:
Residence: <b>Kirkland, Washington</b>	Citizenship: <b>United States of America</b>
Post Office Address: <b>12107 86<sup>th</sup> Avenue, NE, Kirkland, WA 98034</b>	



## UNITED STATES PATENT AND TRADEMARK OFFICE

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UNITED STATES PATENT AND TRADEMARK OFFICE  
WASHINGTON, D.C. 20231  
www.uspto.gov

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO.	DRAWINGS	TOT CLAIMS	IND CLAIMS
09/700,606	01/31/2001	2121	1152	14-694-4254	8	34	4

CONFIRMATION NO. 8142

## FILING RECEIPT



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Watts Hoffman Fisher & Heinke Company  
Suite 1750  
1100 Superior Avenue  
Cleveland, OH 44114-2518

APR 3 7 2001

Date Mailed: 04/24/2001

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the PTO processes the reply to the Notice, the PTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

Usama Fayyad, Mercer Island, WA;  
Paul S. Bradley, Seattle, WA;  
Cory A. Reina, Kirkland, WA;

## Domestic Priority data as claimed by applicant

THIS APPLICATION IS A 371 OF PCT/US99/06717 03/29/1999  
WHICH IS A CIP OF 60/083,906 05/01/1998  
WHICH CLAIMS BENEFIT OF 60/086,410 05/22/1998

## Foreign Applications

Projected Publication Date: N/A

Non-Publication Request: No

Early Publication Request: No

## Title

Scalable system for clustering of large databases having mixed data attributes





\*\*\*\*\*  
\*\*\* RX REPORT \*\*\*  
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